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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,460	12/22/2004	Sang-Duk Lee	AB-1713 US	5050

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EXAMINER
CHIEN, LUCY P

ART UNIT	PAPER NUMBER
2871	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/518,460	LEE ET AL.	
	Examiner	Art Unit	
	LUCY P. CHIEN	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 July 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 December 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *7/3/2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/10/2008 has been entered.

Response to Arguments

Applicant's arguments with respect to claim 1-15 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 1-3,8-15 rejected under 35 U.S.C. 103(a) as being unpatentable over Endo et al (US 5123077) in view of Yamamoto et al (US 5341231).

Regarding Claim 1,12,

Endo et al discloses (Figure 1,2,) a backlight assembly comprising: a light source (4B) including a plurality of light generating parts that generate a first light; and a light guide plate including i) side surfaces having a plurality of light incident surfaces, ii) a

light exiting surface having a plurality of luminance-compensating patterns (rough surfaces), and iii) a light reflecting surface facing the light exiting surface, the first light entering into the light guide plate via the light incident surface to form a second light, the second light being reflected on the light reflecting surface toward the light exiting surface to form a third light, the third light exiting from the light guide plate via the light exiting surface, the luminance-compensating patterns uniformizing a luminance of the third light, and a thickness of the fight guide plate decreasing a direction from the light incident surface to a center of the light guide plate (where 4d is pointing to is the decreasing direction also shown better in Figure 4). And a receiving container for receiving the backlight assembly (1) a liquid crystal display panel (3) received in the receiving container (1), for controlling a transmissity of the second light using a liquid crystal o display an image and a top chassis (2) combined with the receiving container (1) for fixing the liquid crystal display panel (3) to the receiving container. Wherein the light reflecting surface (Figure 1 (4d)) of the light guide plate is concave (curved inwards are shown in Figure 1)

Endo et al does not disclose the luminance-compensating patterns are spaced apart from each other.

Yamamoto et al (Fig. 10) disclose the luminance-compensating patterns (161c) are spaced apart from each other.

It would have been obvious to one of ordinary skill in the art to modify Endo et al to include Yamamoto et al's luminance-compensating patterns (161c) are spaced apart

from each other motivated by the desire provide a uniform illumination display (abstract).

Regarding Claim 2,

In addition to Endo et al and Yamamoto et al as disclosed above, Endo et al discloses (Figure 1,2,) the light guide plate comprises first, second, third and fourth side surfaces, and the light source comprises first and second light generating parts disposed adjacent to the first side surface (4b on the right side) and the second side surface (the circle above where 1 is pointing to) facing the first side surface, respectively.

Regarding Claim 3,

In addition to Endo et al and Yamamoto et al as disclosed above, Endo et al discloses (Figure 1,2,) the thickness of the light guide plate decreases gradually to form an arch-shaped light reflecting surface (as shown the thickness decreasing of the light guide plate).

Regarding Claim 8,13,

In addition to Endo et al and Yamamoto et al as disclosed above, Endo et al discloses (Figure 1,2,) a first reflecting member (4d) disposed under the light reflecting surface of the light guide plate, the first reflecting member reflecting a third light leaked from the light reflecting surface toward the light exiting surface, the first reflecting member comprising a metal plate and a reflective substance formed on the metal plate and having the same contour as that of ht elgith reflecting surface of the light guide plate.

Regarding Claim 9,

In addition to Endo et al and Yamamoto et al as disclosed above, Endo et al discloses (Figure 1,2,) a second reflecting member (6) covering the light sources to reflect the first light generated from the light source toward the light guide plate, and the first and second reflecting members being integrally formed with each other.

Regarding Claim 10,

In addition to Endo et al and Yamamoto et al as disclosed above, Endo et al discloses (Column 5, rows 63-67, Column 6, rows 1-25) wherein each of the luminance-compensating patterns has a same size, and the light-compensating patterns are formed denser in a region disposed near a center of the light guide plate than in a region disposed near the light generating part.

Regarding Claim 11,

In addition to Endo et al and Yamamoto et al as disclosed above, Endo et al discloses (Column 6, rows 1-27) wherein the luminance-compensating patterns are formed denser and have larger size in a region disposed near a center of the light guide plate than in a region disposed near the light generating part.

Regarding Claim 14,

In addition to Endo et al and Yamamoto et al as disclosed above, Endo et al discloses (Fig. 1,2) wherein a bottom face of the receiving container(1) has a same contour as that of the light reflecting surface of the light guide plate (4a), a electronic component (5c) being received in a receiving space under the bottom face of the

receiving container.

Regarding Claim 15,

In addition to Endo et al and Yamamoto et al as disclosed above, Endo et al discloses (Fig. 1,2) wherein the receiving container (1) has a same contour as that of the light reflecting surface of the light guide plate (4b) and comprises a metal plate and a reflective substance formed on the metal plate, and the receiving container reflecting a third light leaked from the light reflecting surface toward the light exiting surface (column 3, rows 44-50).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Endo et al (US 5123077) and of Yamamoto et al (US 5341231) in view of Koike et al (EP 0663600 A1).

Regarding Claim 4,

Endo et al and Yamamoto et al disclose everything as disclosed above.

Endo et al and Yamamoto et al do not discloses the light source further comprises a third light generating part disposed adjacent to the third side surface of the

light guide plate, and the first, second and third fight generating parts are integrally formed to form a U-shape.

Koike et al discloses the light source further comprises a third light generating part disposed adjacent to the third side surface of the light guide plate, and the first, second and third fight generating parts are integrally formed to form a U-shape (Figure 8)(column 9, rows 3-15) to save electric power.

It would have been obvious to one of ordinary skill in the art to modify Endo et al and Yamamoto et al to include Koike et al's u shaped light source motivated by the desire to reinforce brightness and to use less amount of electric power.

Regarding Claim 5,

In addition to Endo et al, Yamamoto et al and Koike et al as disclosed above, Endo et al discloses (Fig. 4, all 4 sides) the light guide plate comprises a first side surface, a second side surface neighboring the first side surface, a third side surface facing the first side surface, and a fourth side surface facing the second side surface, and the light source comprises a first light generating part disposed adjacent to the first side surface, a second light generating part disposed adjacent to the second side surface, a third light generating part disposed adjacent to the third side surface, and a fourth light generating part disposed adjacent to the fourth side surface

Regarding Claim 6,

In addition to Endo et al, Yamamoto et al and Koike et al as disclosed above, Endo et al discloses (Fig. 4, all 4 sides) wherein the light reflecting surface has first,

second, third and fourth curved faces, each of the curved faces having a predetermined curvature.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Endo et al (US 5123077) and of Yamamoto et al (US 5341231) and of Koike et al (EP 0663600 A1) in view of Funamoto et al (EP 0607453 A1).

Endo et al, Yamamoto et al and Koike et al discloses everything as disclosed above.

Endo et al , Yamamoto et al and Koike et al do not disclose the first and second light generating parts are integrally formed to form a first L-shaped lamp, and the third and fourth light generating parts are integrally formed to forms a second L-shaped lamp.

Funamoto et al discloses (Fig. 19) the first and second light generating parts are integrally formed to form a first L-shaped lamp, and the third and fourth light generating parts are integrally formed to forms a second L-shaped lamp to provide a high quality color display with high brightness from the illumination device.

It would have been obvious to one of ordinary skill in the art to modify Endo et al , Yamamoto et al and Koike et al to include Funamoto et al's L shaped lamps motivated by the desire to provide uniform illumination device with high brightness that has low power consumption (Column 20, rows 1-19).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LUCY P. CHIEN whose telephone number is (571)272-8579. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571)272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Lucy P Chien
Examiner
Art Unit 2871

/David Nelms/
Supervisory Patent Examiner, Art Unit 2871